

Amendments to the Claims

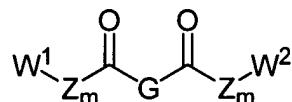
This listing of claims will replace all prior versions, and listings, of claims in the current application.

Listing of Claims

Claims 1 – 8 (canceled).

Claim 9 (currently amended).

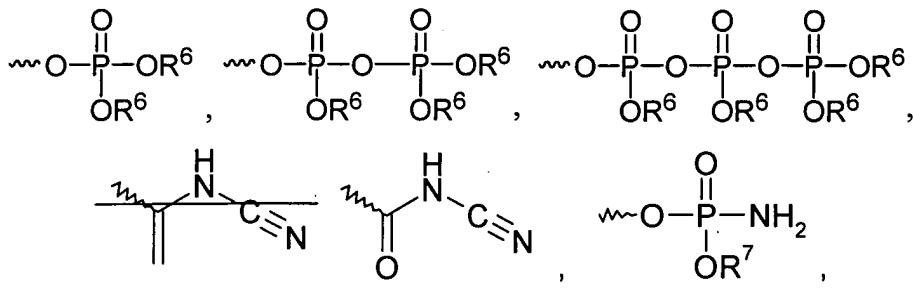
A compound of the formula Ia:

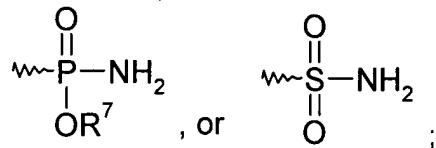


Ia

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein

- (a) each occurrence of Z is CH_2 , wherein each occurrence of m is independently an integer ranging from 1 to 9;
- (b) G is $(\text{CH}_2)_x$, where x is 2, 3, or 4;
- (c) W¹ and W² are independently L;
- (d) each occurrence of R¹ and R² is independently CO_2H , $\text{CO}_2(\text{C}_1\text{--}\text{C}_6)\text{alkyl}$, $(\text{C}_1\text{--}\text{C}_6)\text{alkyl}$, $(\text{C}_2\text{--}\text{C}_6)\text{alkenyl}$, $(\text{C}_2\text{--}\text{C}_6)\text{alkynyl}$, phenyl, or benzyl, ~~or R¹ and R² and the carbon to which they are both attached are taken together to form a (C₃–C₇)cycloalkyl group;~~
- (e) L is $\text{C}(\text{R}^1)(\text{R}^2)\text{--}(\text{CH}_2)_n\text{--}Y$, where n is an independent integer ranging from 0 to 4;
- (f) each occurrence of Y is independently $(\text{C}_1\text{--}\text{C}_6)\text{alkyl}$, OH, COOH, CHO, $(\text{CH}_2)_n\text{COOR}^3$, SO_3H ,





where

- (I)(i) R³ is (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C₁-C₆)alkoxy, or phenyl groups,
- (ii) each occurrence of R⁴ is independently H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, or (C₂-C₆)alkynyl and is unsubstituted or substituted with one or two halo, OH, C₁-C₆ alkoxy, or phenyl groups; and
- (iii) each occurrence of R⁵ is independently H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, or (C₂-C₆)alkynyl; and

provided that:

- (i) if x is 4, each occurrence of Z is CH₂, each occurrence of m is 4, and W¹ is CH(CH₃)CO₂H, then W² is not the same as W¹;
- (ii) if x is 4, each occurrence of Z is CH₂, each occurrence of m is 2, and W¹ is C(phenyl)₂CH₂CO₂H, then W² is not the same as W¹.

Claims 10-13 (canceled).

Claim 14 (currently amended). The compound of claim 13 9, or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein each occurrence of Y is independently OH, COOR³, or COOH.

Claims 15 – 33 (canceled).

Claim 34 (currently amended). A pharmaceutical composition comprising a compound of claim 1, 9, or 15 or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, and a pharmaceutically acceptable vehicle, excipient, or diluent.

Claims 35 – 55 (canceled).

Claim 56 (currently amended). A method of ~~treating or preventing a disease or disorder that is capable of being treated or prevented by~~ increasing HDL levels, which comprises administering to a patient in need ~~of such treatment or prevention thereof~~ a therapeutically effective amount of a compound of claim 1, 9, or 15, or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof.

Claim 57 (currently amended). A method of ~~treating or preventing a disease or disorder that is capable of being treated or prevented by~~ lowering LDL levels, which comprises administering to such patient in need ~~of such treatment or prevention thereof~~ a therapeutically effective amount of a compound of claim 1, 9, or 15, or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof.

Claim 58 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof represented by formulae Ib-1 to Ib-9, Ib-12 to Ib-14, Ib-25 to Ib-32, Ib-35 to Ib-37, Ib-50 to Ib-67, Ib-70 to Ib-72, Ib-83 to Ib-90, Ib-93 to Ib-95, Ib-106 to Ib-113, Ib-116 to Ib-126, Ib-129 to Ib-131, Ib-144 to Ib-149, Ib-152 to Ib-154, Ib-157 to Ib-158, or Ib-161 to Ib-163, as follows:

Ib-1 2,12-Dihydroxy-2,12-dimethyl-tridecane-5,9-dione;

Ib-2 1,13-Dihydroxy-2,2,12,12-tetramethyl-tridecane-5,9-dione;

Ib-3 2,2,12,12-Tetramethyl-5,9-dioxo-tridecanedioic acid;

Ib-4 2,2,12,12-Tetramethyl-5,9-dioxo-tridecanedial;

Ib-5 2,2,12,12-Tetramethyl-5,9-dioxo-tridecanedioic acid dimethyl ester;

Ib-6 2,2,12,12-Tetramethyl-5,9-dioxo-tridecanedioic acid diphenyl ester;

Ib-7 2,2,12,12-Tetramethyl-5,9-dioxo-tridecanedioic acid dibenzyl ester;

Ib-8 2,12-Dimethyl-5,9-dioxo-tridecane-2,12-disulfonic acid;

Ib-9 Phosphoric acid mono-(1,1,11-trimethyl-4,8-dioxo-11-phosphonooxy-dodecyl) ester;

Ib-12 2,2,12,12-Tetramethyl-5,9-dioxo-tridecanedioic acid dicyanimide;

Ib-13 Phosphoramicidic acid mono-[11-(amino-hydroxy-phosphoryloxy)-1,1,11-trimethyl-4,8-dioxo-dodecyl]ester;

Ib-14 2,12-Dimethyl-2,12-bis-(amino-hydroxy-phosphoryloxy)-tridecane-5,9-dione
1,15-Dihydroxy-3,3,13,13-tetramethyl-pentadecane-6,10-dione;

Ib-25 1,15-Dihydroxy-3,3,13,13-tetramethyl-pentadecane-6,10-dione;

Ib-26 3,3,13,13-Tetramethyl-6,10-dioxo-pentadecanedioic acid;

Ib-27 3,3,13,13-Tetramethyl-6,10-dioxo-pentadecanodial;

Ib-28 3,3,13,13-Tetramethyl-6,10-dioxo-pentadecanedioic acid dimethyl ester;

Ib-29 2,2,12,12-Tetramethyl-5,9-dioxo-tetradecanedioic acid diphenyl ester;

Ib-30 3,3,13,13-Tetramethyl-6,10,14-trioxo-16-phenyl-hexadecanoic acid benzyl ester;

Ib-31 2,2,12,12-Tetramethyl-5,9-dioxo-tridecane-1,13-disulfonic acid;

Ib-32 Phosphoric acid mono-(2,2,12,12-tetramethyl-5,9-dioxo-13-phosphonooxy-tridecyl) ester;

Ib-35 3,3,13,13-Tetramethyl-6,10-dioxo-pentadecanedioic acid dicyanimide;

Ib-36 Phosphoramic acid mono-[13-(amino-hydroxy-phosphoryloxy)-2,2,12,12-tetramethyl-6,9-dioxo-tridecyl] ester;

Ib-37 Phosphoramic acid mono-[11-(amino-hydroxy-phosphoryloxy)-1,1,11-trimethyl-4,8-dioxo-dodecyl]ester;

Ib-50 2,11-Dihydroxy-2,11-dimethyl-dodecane-5,8-dione;

Ib-51 1,12-Dihydroxy-2,2,11,11-tetramethyl-dodecane-5,8-dione;

Ib-52 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid;

Ib-53 2,11-Dimethyl-5,8-dioxo-dodecane-2,11-disulfonic acid;

Ib-54 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedial;

Ib-55 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid dimethyl ester;

Ib-56 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid diphenyl ester;

Ib-57 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid dibenzyl ester;

Ib-58 Phosphoric acid mono-(1,1,10-trimethyl-4,7-dioxo-10-phosphonooxy-undecyl) ester;

Ib-59 2,14-Dihydroxy-2,14-dimethyl-pentadecane-6,10-dione;

Ib-60 1,15-Dihydroxy-2,2,14,14-tetramethyl-pentadecane-6,10-dione;

Ib-61 2,2,14,14-Tetramethyl-6,10-dioxo-pentadecanedioic acid;

Ib-62 2,2,14,14-Tetramethyl-6,10-dioxo-pentadecanedial;

Ib-63 2,2,14,14-Tetramethyl-6,10-dioxo-pentadecanedioic acid dimethyl ester;

Ib-64 2,2,14,14-Tetramethyl-6,10-dioxo-hexadecanedioic acid diphenyl ester;

Ib-65 2,2,14,14-Tetramethyl-6,10-dioxo-hexadecanedioic acid dibenzyl ester;

Ib-66 2,14-Dimethyl-6,10-dioxo-pentadecane-2,14-disulfonic acid;

Ib-67 Phosphoric acid mono-(1,1,13-trimethyl-5,9-dioxo-13-phosphonooxy-tetradecyl) ester;

Ib-70 2,2,14,14-Tetramethyl-6,10-dioxo-pentadecanedioic acid dicyanimide;

Ib-71 Phosphoramicidic acid mono-[13-(amino-hydroxy-phosphoryloxy)-1,1,13-trimethyl-5,9-dioxo-tetradecyl] ester;

Ib-72 2,14-Dimethyl-2,14-bis-(amino-hydroxy-phosphoryloxy)-pentadecane-6,10-dione;

Ib-83 1,14-Dihydroxy-3,3,12,12-tetramethyl-tetradecane-6,9-dione;

Ib-84 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecanedioic acid;

Ib-85 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecanodial;

Ib-86 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecanedioic acid dimethyl ester;

Ib-87 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecanedioic acid diphenyl ester;

Ib-88 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecanedioic acid dibenzyl ester;

Ib-89 2,2,11,11-Tetramethyl-5,8-dioxo-dodecane-1,12-disulfonic acid;

Ib-90 Phosphoric acid mono-(2,2,11,11-tetramethyl-5,8-dioxo-12-phosphonoxy-dodecyl) ester;

Ib-93 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecanedioic acid dicyanimide;

Ib-94 Phosphoramicidic acid mono-[12-(amino-hydroxy-phosphoryloxy)-2,2,11,11-tetramethyl-5,8-dioxo-dodecyl] ester;

Ib-95 2,2,11,11-Tetramethyl-1,12-bis-(aminohydroxyphosphoryloxy)-dodecane-5,8-dione;

Ib-106 1,16-Dihydroxy-4,4,13,13-tetramethyl-hexadecane-7,10-dione;

Ib-107 4,4,13,13-Tetramethyl-7,10-dioxo-hexadecanedioic acid;

Ib-108 4,4,13,13-Tetramethyl-7,10-dioxo-hexadecanodial;

Ib-109 4,4,13,13-Tetramethyl-7,10-dioxo-hexadecanedioic acid dimethyl ester;

Ib-110 4,4,13,13-Tetramethyl-7,10-dioxo-hexadecanedioic acid diphenyl ester;

Ib-111 4,4,13,13-Tetramethyl-7,10-dioxo-hexadecanedioic acid dibenzyl ester;

Ib-112 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecane-1,14-disulfonic acid;

Ib-113 Phosphoric acid mono-(3,3,12,12-tetramethyl-6,9-dioxo-14-phosphonoxy-tetradecyl) ester;

Ib-116 4,4,13,13-Tetramethyl-7,10-dioxo-hexadecanedioic acid dicyanimide;

Ib-117 Phosphoramicidic acid mono-[14-(amino-hydroxy-phosphoryloxy)-3,3,12,12-tetramethyl-6,9-dioxo-tetradecyl] ester;

Ib-118 3,3,12,12-Tetramethyl-1,14-bis(amino-hydroxy-phosphoryloxy)-tetradecane-6,9-dione;

Ib-119 1,12-Dihydroxy-2,2,11,11-tetramethyl-dodecane-5,8-dione;

Ib-120 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid;

Ib-121 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedial;

Ib-122 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid dimethyl ester;

Ib-123 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid diphenyl ester;

Ib-124 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid dibenzyl ester;

Ib-125 2,11-Dimethyl-5,8-dioxo-dodecane-2,11-disulfonic acid;

Ib-126 Phosphoric acid mono-(1,1,10-trimethyl-4,7-dioxo-10-phosphonooxy-undecyl) ester;

Ib-129 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid dicyanimide;

Ib-130 Phosphoramicidic acid mono-[10-(amino-hydroxy-phosphoryloxy)-1,1,10-trimethyl-4,7-dioxo-undecyl] ester;

Ib-131 2,2,11,11-Tetramethyl-1,12-(amino-hydroxy-phosphoryloxy)-dodecane-5,8-dione;

Ib-144 1,17-Dihydroxy-3,3,15,15-tetramethyl-heptadecane-7,11-dione;

Ib-145 3,3,15,15-Tetramethyl-7,11-dioxo-heptadecanodial;

Ib-146 3,3,15,15-Tetramethyl-7,11-dioxo-heptadecanedioic acid dimethyl ester;

Ib-147 1,17-Dihydroxy-3,3,15,15-tetramethyl-heptadecane-7,11-dione;

Ib-148 3,3,15,15-Tetramethyl-7,11-dioxo-heptadecanedioic acid diphenyl ester;

Ib-149 3,3,15,15-Tetramethyl-7,11-dioxo-heptadecanedioic acid dibenzyl ester;

Ib-152 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid dicyanamide;

Ib-153 Phosphoramidic acid mono-[10-(amino-hydroxy-phosphoryloxy)-1,1,10-trimethyl-4,7-dioxo-undecyl] ester;

Ib-154 2,11-Dimethyl-2,11-bis-(amino-hydroxy-phosphoryloxy)-dodecane-5,8-dione;

Ib-157 2,2,14,14-Tetramethyl-6,10-dioxo-pentadecane-1,15-disulfonic acid;

Ib-158 Phosphoric acid mono-(2,2,14,14-tetramethyl-6,10-dioxo-15-phosphonoxy-pentadecyl)ester;

Ib-161 3,3,15,15-Tetramethyl-7,11-dioxo-heptadecanedioic acid dicyanamide;

Ib-162 Phosphoramidic acid mono-[16-(amino-hydroxy-phosphoryloxy)-4,4,15,15-tetramethyl-7,11-dioxo-hexadecyl] ester; or

Ib-163 2,2,14,14-Tetramethyl-1,15-bis-(amino-hydroxy-phosphoryloxy)-pentadecane-6,10-dione.

Claim 59 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-2 1,13-Dihydroxy-2,2,12,12-tetramethyl-tridecane-5,9-dione.

Claim 60 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-3 2,2,12,12-Tetramethyl-5,9-dioxo-tridecanedioic acid.

Claim 61 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-25 1,15-Dihydroxy-3,3,13,13-tetramethyl-pentadecane-6,10-dione.

Claim 62 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-26 3,3,13,13-Tetramethyl-6,10-dioxo-pentadecanedioic acid.

Claim 63 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-51 1,12-Dihydroxy-2,2,11,11-tetramethyl-dodecane-5,8-dione.

Claim 64 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-52 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid.

Claim 65 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-60 1,15-Dihydroxy-2,2,14,14-tetramethyl-pentadecane-6,10-dione.

Claim 66 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-61 2,2,14,14-Tetramethyl-6,10-dioxo-pentadecanedioic acid.

Claim 67 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-83 1,14-Dihydroxy-3,3,12,12-tetramethyl-tetradecane-6,9-dione.

Claim 68 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-84 3,3,12,12-Tetramethyl-6,9-dioxo-tetradecanedioic acid.

Claim 69 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-106 1,16-Dihydroxy-4,4,13,13-tetramethyl-hexadecane-7,10-dione.

Claim 70 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-107 4,4,13,13-Tetramethyl-7,10-dioxo-hexadecanedioic acid.

Claim 71 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-119 1,12-Dihydroxy-2,2,11,11-tetramethyl-dodecane-5,8-dione.

Claim 72 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-120 2,2,11,11-Tetramethyl-5,8-dioxo-dodecanedioic acid.

Claim 73 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-144 1,17-Dihydroxy-3,3,15,15-tetramethyl-heptadecane-7,11-dione.

Claim 74 (new). A compound or a pharmaceutically acceptable salt, hydrate or solvate thereof of claim 58 represented by the formula:

Ib-147 1,17-Dihydroxy-3,3,15,15-tetramethyl-heptadecane-7,11-dione.

Claim 75 (new). A pharmaceutical composition comprising a compound of claim 58 and a pharmaceutically acceptable vehicle, excipient, or diluent.

Claim 76 (new). A method of increasing HDL levels, which comprises administering to a patient in need thereof a therapeutically effective amount of a compound of claim 58, or a pharmaceutically acceptable salt, hydrate or solvate thereof.

Claim 77 (new). A method of lowering LDL levels, which comprises administering to such patient in need thereof a therapeutically effective amount of a compound of claim 58, or a pharmaceutically acceptable salt, hydrate or solvate thereof.